Professional Development: Bringing technology into the classroom effectively
By Marcy Levin-Epstein
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A new day is dawning in professional development for K-12 technology. It's no longer a question of teaching teachers how to use technology; it's about teaching them when and why to use it.

The reality is that the vast majority of teachers know how to use computers—they use them regularly at home and at school to plan lessons, correspond with friends, and conduct personal business. What the vast majority of teachers are not doing is using computers in the classroom.

Until a year or 18 months ago, most talk focused on training teachers to use technology and the internet, says Al Rogers, vice president of professional development for Lightspan Corp. "But we've been making a lot of progress in that regard," he says, and most professional development offered now reflects that progress.

"One critical need is to teach teachers how to use technology as a learning tool and to support and supplement what they're doing," agrees Dolphas Trotter, assistant superintendent for secondary education in the Fresno, Calif., Unified School District. "The amount of technology available to assist teachers is staggering, and it's way ahead of teacher knowledge."

Then there are the assessment tests. With states deploying high-stakes testing, "principals and teachers are having their feet held to the fire. There's only one thing on their mind now and that's student achievement," says Rogers. "If it ain't tested, it's optional."

Teachers need help teaching to standards, developing data-driven instruction, classroom management, and discipline. "Those are the areas where we hear the need for professional development," Rogers says."I've spent 20 years of my technology-using life trying to convince teachers that technology is a great way to go. Now, I've taken a step back. The need now is to use technology to help them grapple with the current climate. We're looking at professional development with technology, but technology itself is not the focus," he adds.

After all, most teachers are like everyone else: They use computers and the internet at home or work. Nearly eight out of every 10 teachers have home computers, which they use to prepare lessons and communicate with friends, Rogers says. But, "the vast majority don't ever use computers with their students."

So, Rogers concludes, the problem is not technophobia among teachers. It's just that they haven't found "a compelling reason" to use computers in the classroom.

In fact, research has shown just 3 percent of teachers are using technology effectively in the classroom, according to Sherrelle Walker, who spent 29 years in public education as a teacher, administrator, and assistant superintendent and is now vice president of curriculum for National Computer Systems Inc. (NCS), of Minneapolis.

"The figure is nowhere where we need it to be," Walker says. To change that, she says, the question is, "Can we put tools in their hands that are easy to use?"

Adds Pat Brogan, vice president of educational marketing for Macromedia: "Technologies are moving so fast that it is hard for teachers to keep up." She guesses that fewer than 20 percent of teachers would be considered technology-fluent.

Define the needs

Brogan says the most critical professional development needs are "time and curriculum that is flexible enough to allow teachers to learn based on their current level of expertise, and programs to fund training." Walker suggests that school administrators identify their needs, primarily by asking teachers and principals what they require.

Before launching into a professional development plan, Trotter advises, check your district's goals and objectives for technology use. "In years past, lots of people jumped on the bandwagon, but they didn't know how technology could be used. It needs to be integrated and supported. That's critical." In Fresno, he says, "everything we've attempted to do centers around our primary focus of student achievement."

Trotter's district is using a state-funded literacy grant to train four teachers from each middle school—64 teachers total—as technology mentors, who then will train their peers. The training includes accessing the internet to pull down lessons and find staff-development opportunities, as well as overall computer training.

Beyond that, Trotter says, Fresno is moving more toward computer-based, individualized staff development, since the district's eight professional days have been cut to three. That way, teachers don't have to be away from their schools, and they can "access and get staff development at home." The district worked with ACTV Inc. of New York to design custom computer-based staff development modules.

Because of the literacy grant, the district's middle school teachers are ahead of the pack, Trotter says. But more than half of Fresno's high schools have California Digital High Schools program technology grants that call for staff development, he adds.

The district is spending close to $750,000 a year on professional development for new technologies now, and that will only increase as all the high schools connect to the district's wide area network, he says. Fresno is the fourth-largest school district in California, with 80,000 students, eight high schools, 18 middle schools, and 64 elementary schools.

Collaborative learning

According to Margaret Riel, associate director of the Center for Collaborative Research in Education at the University of California, Irvine, transmitting or delivering information to teachers is the wrong way to go.

"The best way of involving teachers in ongoing, everyday professional development is to have them work collaboratively with other teachers. This means in the classroom and across networks," says Riel.

"We learn best from other people," she adds. "It is why we don't just seat kids in front of learning tools all day. We place them in social environments. We need to do the same for teachers. The more time they spend co-teaching and co-planning, the richer their learning and the better prepared they are to facilitate real students' learning."

Riel describes two approaches to professional development on new technologies. The first is technology training, or helping teachers learn how to use a piece of technology. Here, she says, traditional workshops and online tutorials work well.

But for the second type, what she calls professional development with technology—or learning to bring the technology to the classroom—the teacher needs to have a stronger role. Approaches can include peer coaching, guided technology inquiry, collaboratively led workshops, and learning community exchanges, she suggests. For example, a workshop could include a panel of teachers presenting current practices, along with a panel of outside experts as reviewers, offering suggestions.

"For many teachers, learning how to integrate technology with learning in generative ways is the most critical need," Riel says. "This type of learning needs to be ongoing, continuous. We need to create a respect and value for learning as part of teaching. This means making it a part of the job responsibility of teachers. It means making time for learning."

Outside vendors

For Carterville Elementary School, in Carterville, Ill., going to an outside vendor was a necessity, according to Principal Kelly Stewart. "We don't have a technology coordinator or technology teachers. We had to find a way to make it work with what we had," says Stewart, whose rural school has 500 students in grades 3-6.

"This was a perfect way to go for our situation. We couldn't have gotten to where we got if we hadn't gotten canned stuff," Stewart says.

The school turned to Futurekids Inc. of Los Angeles for staff development and uses a "trailblazing" model developed by the regional Office of Education. The school is networked and wired, with 15 computers in a lab and at least two machines in every class, the principal says.

Now in its third year, Carterville's technology plan began like this: The school purchased the canned curriculum, and eight staff members took Futurekids training. Those eight teachers taught computer lab to all 23 classes in the school, swapping their own homerooms with other teachers for the time they were in the lab.

"I took your class to computer lab, you took mine to math," Stewart explains. "That covered the equity issue" and—as a bonus—promoted collegiality. The second year, more teachers were trained, and the original group served as mentors.

The trailblazer model also provides for staff-development days, including a digital camera session for four people. Stewart is a fan of small-group sessions: "You can admit what you don't know in a small group."

Now, the program has snowballed. There's a lot of integration into the classroom, and teachers are thirsty to know more, she says. All but four teachers are on board.

Stewart says the best thing her district did was get laptops for teachers—even before getting computers for students. That way, teachers could take them home and get comfortable working on the machines. The 1,700-student district got 26 laptops, including eight for Stewart's building.

Interestingly, the principal thought it would be a hindrance that the school only had 15 computers in the lab. But it wasn't, because that brought about cooperative learning. She also thought that not having a technology teacher would be a problem. But again, "it turned out to be the best thing that ever happened: all the teachers learned, and it's flowed into the classrooms."

One size doesn't fit all

When Leslie Flanders came to Scott County Schools in Georgetown, Ky., nine years ago, the district had 250 or 300 mostly "feeble" stand-alone computers. Today, the district has 1,700 fully connected and internet-wired computers—and plenty of teachers using them in their classrooms.

What happened in between? Training, training, training.

"There's no one thing that works for everybody," says Flanders, district technology coordinator for the 5,500-student, 400-teacher district. "So we've used a lot of different approaches."

For example, the district has a two-year effort called Project Technology. This is a "jigsaw" approach in which teams are set up of four teachers and four students, and each person gets specialized

training in a different area and then teaches the others what they've learned. In other words, you send the jigsaw pieces out, then they come back, and you put the puzzle pieces together, Flanders explains.

The result is that team members are cross-trained in different areas, and they train other teachers in the school one on one and in mini-workshops.

Another approach Flanders is using is Classrooms 2000, an array of professional-development offerings for designated technology teachers. Under the Kentucky Education Technology System, Flanders' district has set up one classroom in each of 10 schools with six computers each. In those classes, the teachers "are looked to as leaders and have to be willing to submit to 60 hours of professional development over two years," she says.

"These teachers have flocked to our professional-development offerings. A lot of that has been because the computers are in the classroom, and students put such demands on the teachers, asking 'What are we going to do today' on the computer?" Flanders says.

Professional development workshops, held on site with outside consultants, have covered the gamut, from basic computer training to Quicktime virtual reality and digital cameras.

The next step, she says, is to address where each teacher is and work out individual training schedules. The district's web site lists available technology workshops, including technology camps from Tech4Learning, in a summer and a fall academy. Trainers include outside consultants, district teachers, and Flanders herself. Some training is one on one; other training is online. By and large, she says, "teachers prefer to learn from teachers."

For the summer and fall, the district is offering online project-based professional-development programs from Apple Computer. Now, the district is working on adding video streaming so teachers can observe other teachers teaching. The district just got a server to house the video streaming.

The school technology coordinator in each school does mini-sessions before and after school and during staff meetings. Some team training is conducted, particularly for technology novices.

"We do some things hands-on, some things not. Some teachers work better hands-on, some don't," she says. Training is offered at different times and dates: mornings, nights, Saturdays, and during the summer. "Having all kinds of options at all kinds of times has helped with teacher scheduling," she says.

It's important to include students in planning and training, Flanders says. "Students can be your best support. Students are our infrastructure, not just our product. If we integrate them into our infrastructure, we can learn from them."

Work with people from every level and discipline, she advises. "Don't cook up the projects yourself at the administrative level and expect everyone to think it's wonderful—or even to do it."

As for obstacles along the way, Flanders is fond of referring to what she calls the "yeah, buts." As in, when teachers say, "Yeah, but I don't have a computer." Then you get them a computer and they say, "Yeah, but I don't have software." Then you get them the software they want, and they say, "Yeah, but I don't have a TV or scanner converter."

She concludes: "Nothing is just right for everyone. I want to have an answer for all the 'yeah, buts.' Well, maybe not for all of them, but for most of them."

Fresno Unified School District
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